Do You Know

Your Water?

Treating drinking water is all about protecting public health. Most people don't realize that.

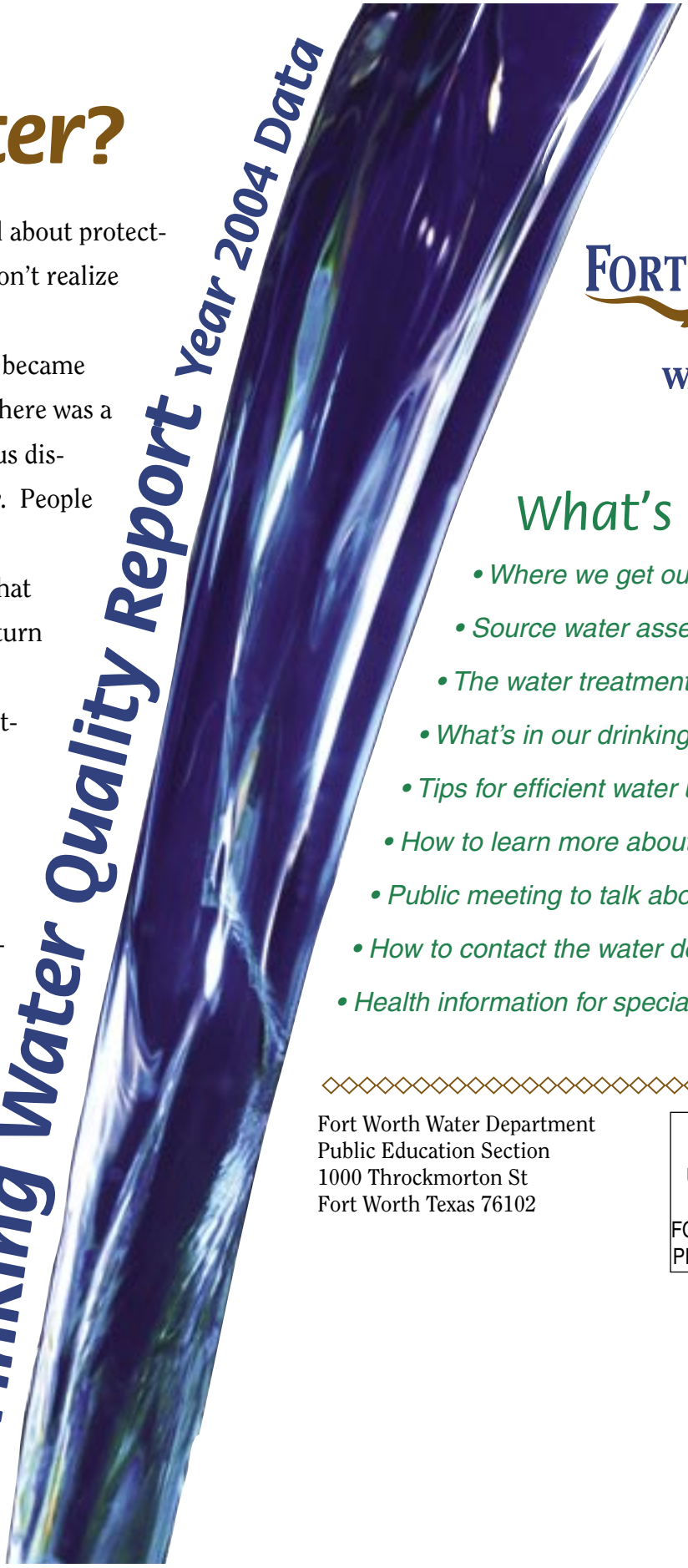
As drinking water treatment became more common in this country, there was a corresponding decrease in serious diseases, like cholera and dysentery. People began living longer.

Now, we take it for granted that we'll have clean water when we turn on the tap.

The Fort Worth Water Department's mission is to provide safe and reliable water and wastewater services with environmental integrity.

This report is about the quality of the drinking water you received in 2004. The information inside shows the water treated and delivered to you was better than the state and federal standards require.

Water department employees perform numerous tests each day and maintain more than 2,700 miles of water lines so you have clean water when you want it.



Drinking Water Quality Report Year 2004 Data

FORT WORTH WATER

What's Inside

Fort Worth Water Department
Public Education Section
1000 Throckmorton St
Fort Worth Texas 76102

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PERMIT NO. 2070

Health Information for Special Populations

You may be more vulnerable than the general population to certain microbial contaminants, such as *Cryptosporidium*, in drinking water. Infants, some elderly or immunocompromised persons, such as those undergoing chemotherapy for cancer, those who have undergone organ transplants, those who are undergoing treatment with steroids and people with HIV/AIDS or other immune system disorders can be particularly at risk from infections.

You should seek advice about drinking water from your physician or health care provider. Additional guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* are available from the Safe Drinking Water Hotline at 800-426-4791.

Fort Worth Water Department

817-FW-24-HRS (817-392-4477)
for billing questions, automated account information, main breaks, sewer backups, water quality

Web site: www.fortworthgov.org/water
Email: WPE@fortworthgov.org

Administrative Office: Fort Worth City Hall, 2nd Floor, 1000 Throckmorton St., 817-392-8220
The Water Department is part of the Fort Worth city government. The City Council meets each Tuesday at City Hall, 1000 Throckmorton St.

1st & 2nd Tuesday of month	7 p.m.
All other Tuesdays	10 a.m.

Customer Service Locations
Downtown: 908 Monroe St.
Southeast: 4245 E. Berry St. (inside Minyard's store)
Northside: 102 NW 28th St. (inside Carnival store)

Substances Expected To Be In Drinking Water

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's (EPA) Safe Drinking Water Hotline at 800-426-4791 or on the EPA Web site at www.epa.gov/safewater.

As water travels over the land or through the ground, it dissolves naturally occurring minerals and radioactive material. It also can pick up substances resulting from animal waste or human activity.

These contaminants could be bacteria, viruses, salts, metals or pesticides.

To ensure tap water is safe to drink, EPA and the Texas Commission on Environmental Quality (TCEQ) have regulations limiting the amount of certain contaminants in water provided by public systems.

The Food and Drug Administration (FDA) regulates limits for contaminants in bottled water. These limits must provide the same public health protection as tap water standards.

Contaminants may be found in drinking water that may cause taste, color or odor problems. These types of problems are not necessarily causes for health concerns. For more information on the taste, odor or color of drinking water, call the Water Department at 817-392-4477.

Public Meeting
Thursday, June 9, 2005
City Hall
1000 Throckmorton St.
6 p.m.

Water department staff will be on hand to answer questions you may have about this report or other water quality issues.

Did you know?

- Fort Worth treated over 57 billion gallons of drinking water in 2004.
- Fort Worth maintains 2,700 miles of water mains and 2,700 miles of sewer mains.
- Less than 3 percent of the water produced at a large municipal water treatment plant is used for drinking.
- The World Health Organization estimates 1.1 billion people do not have access to safe drinking water.
- A dairy cow must drink four gallons of water to produce about 1 gallon of milk.
- Water makes up about 70 percent of the human body, and each day we must replace over five pints of water.

Learn more about water by visiting the following Web sites. Many of these sites offer teacher resources and kid pages.

Environmental Protection Agency
www.epa.gov

Texas Commission on Environmental Quality
www.tceq.state.tx.us

Texas Water Development Board
www.twdb.state.tx.us

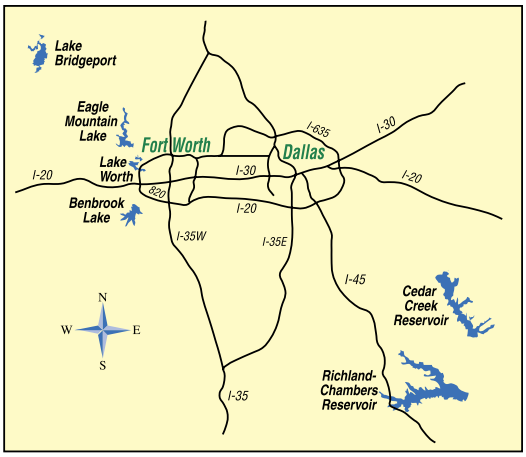
American Water Works Association
www.awwa.org
www.drinktap.org

Water Environment Federation
www.wef.org

National Sanitation Foundation
www.nsf.org

Texas Water Conservation Association
www.twca.org

State Assessed Source Water Threats; Reports Available



The Texas Commission on Environmental Quality conducted a source water assessment of our water supply lakes in 2003. The Fort Worth water system was determined to be susceptible to some contaminants, using criteria developed by TCEQ in its federally approved source water assessment program.

The assessment report consists of maps showing the assessment area, an inventory of known land use activities of concern and documentation of specific contaminants of concern.

This report is available for review at the Fort Worth Water Department offices, 1000 Throckmorton St., 2nd floor.

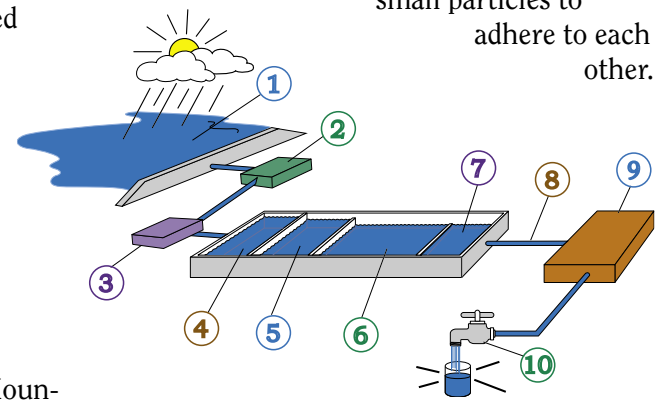
Fort Worth uses surface water from six lakes — Lake Bridgeport, Eagle Mountain Lake, Lake Worth, Benbrook Lake, Cedar Creek Reservoir and Richland-Chambers Reservoir.

Fort Worth owns Lake Worth. The U.S. Army Corps of Engineers is responsible for Benbrook Lake. The other four lakes are owned and operated by Tarrant Regional Water District (TRWD).

Fort Worth monitors water quality in Lake Worth and participates with TRWD to ensure the other lakes are regularly tested.

How Lake Water Becomes Drinking Water

1. Reservoirs: Fort Worth water comes from six lakes.
2. Raw water pump station: Here water is pumped from the lake to the water treatment plant.
3. Primary Disinfection: Either ozone or chloramines (chlorine and ammonia) is added to kill bacteria and viruses. The Eagle Mountain and Rolling Hills water treatment plants use ozone. The North Holly and South Holly treatment plants use chloramines.
4. Mixing Chamber: Chemicals, called coagulants and polymers are added to the water to cause small particles to adhere to each other.



5. Coagulation Basin: The particulate matter begins to clump together.
6. Sedimentation Basin: Particles settle to the bottom of the basin and are removed.
7. Filters: Water is filtered through four feet of coal, sand and gravel.
8. Disinfection: Chloramines are added to provide disinfection all the way to your faucet. The chlorine kills bacteria and viruses. Ammonia is added to reduce the chlorine odor and the amount of chlorine by-products created.
9. Clearwell storage: Water is temporarily stored in tanks before it is pumped to the public.
10. Distribution: Drinking water reaches the public through more than 2,700 miles of pipeline.

What's in the Water

Contaminant	Measure	MCL	2004 Level	Range of Detects	MCLG	Common Sources of Substance in Drinking Water
Atrazine	ppb	3	0.10	0 to 0.22	3	Runoff from herbicide used on row crops
Barium[1]	ppm	2	0.058	0.033 to 0.058	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Beta particles & Photon emitters [2]	pCi/L	50	5.6	4.4 to 5.6	N/A	Decay of natural and man-made deposits of certain minerals that are radioactive and may emit forms of radiation known as photons and beta radiation
Radium 228 [2]	pCi/L	5	1	0 to 1	N/A	Erosion of natural deposits
Fluoride	ppm	4	1.40	0.10 to 1.40	4	Water additive which promotes strong teeth; erosion of natural deposits; discharge from fertilizer and aluminum factories
Nitrate (measured as Nitrogen)	ppm	10	0.58	0 to 0.58	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Bromate	ppb	10	4	0 to 4	0	By-product of drinking water disinfection
Haloacetic Acids	ppb	60	20	0 to 29	N/A	By-product of drinking water disinfection
Total Trihalomethanes	ppb	80	37	0 to 46	N/A	By-product of drinking water disinfection
Total Coliforms (including fecal coliform & E. coli)	% of positive samples	Presence in 5% of monthly samples	Presence in 0.43% of monthly samples	0 to 0.43	0	Coliforms are naturally present in the environment as well as feces; fecal coliforms and E. coli only come from human and animal fecal waste.
Turbidity [3]	NTU	TT	0.45 Highest single result 99% Lowest monthly % of samples <0.3 NTU	N/A	N/A	Soil runoff

Contaminant	Measure	MRDL	2004 Level	Range of Detects	MRDLG	Common Sources of Substance in Drinking Water
Chloramines	ppm	4	3	0.7 to 4.3	4	Water additive used to control microbes

Contaminant	Measure	90th percentile [5]	# of sites exceeding action level	MCL	MCLG	Common Sources of Substance in Drinking Water
Lead [4]	ppb	3.9	1	Action Level =15	N/A	Corrosion of household plumbing systems; erosion of natural deposits
Copper [4]	ppm	0.395	0	Action Level =1.3	N/A	

Contaminant	High	Low	Average	MCL	MCLG	Common Sources of Substance in Drinking Water
Total Organic Carbon [6]	6.4	3.9	5.0	TT = % removal	N/A	Naturally occurring

[1] Because Fort Worth historically has had low levels of metals in its water, the Texas Commission on Environmental Quality (TCEQ) requires this monitoring occur only once every six years. The test results shown above are from 2002. The next monitoring will occur in 2008.

[2] Because Fort Worth historically has had low levels of radionuclides in its water, TCEQ requires this monitoring occur only once every three years. The test results shown above are from 2002. The next monitoring will occur in 2005.

[3] Turbidity is a measure of the cloudiness of water. It is monitored because it is a good indicator of the effectiveness of the filtration system.

[4] Because Fort Worth historically has had low levels of lead and copper in its water, the Texas Commission on Environmental Quality requires this monitoring occur only once every three years. The test results shown above are from 2002. The next monitoring will occur in 2005.

[5] 90th percentile value: 90% of the samples were at or below this value. EPA considers the 90th percentile value the same as an "average" value for other contaminants. Lead and copper are regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps.

[6] Total Organic Carbon is used to determine disinfection by-product precursors. Fort Worth was in compliance with all monitoring and treatment technique requirements for disinfection by-product precursors.

Unregulated Contaminants [7]						
Contaminant	Unit	Range of Detections	2004 Level	MCL	MCLG	Common Sources of Substance in Drinking Water
Chloral Hydrate	ppb	0 to 8	8	Not regulated	0	By-product of drinking water disinfection
Bromoform	ppb	0 to 2	2	Not regulated	0	By-product of drinking water disinfection; not regulated individually; included in Haloacetic Acids
Bromodichloromethane	ppb	0 to 16	16	Not regulated	0	
Chloroform	ppb	0 to 24	24	Not regulated	0	
Dibromochloromethane	ppb	0 to 11	11	Not regulated	60	
Dichloroacetic Acid	ppb	3 to 16	16	Not regulated	0	By-product of drinking water disinfection; not regulated individually; included in Total Trihalomethanes
Tricholoroacetic Acid	ppb	0 to 11	11	Not regulated	300	

[7] Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted.

Abbreviations Used in Tables

Action Level - The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

MCL - Maximum Contaminant Level; the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG - Maximum Contaminant Level Goal; the level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL - Maximum Residual Disinfectant Level; the highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG - Maximum Residual Disinfectant Level Goal; the level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

N/A - Not Applicable.

NTU - Nepholometric Turbidity Unit; a measure of water turbidity or clarity.

pCi/L - Picocuries per liter; a measure of radioactivity.

ppb - Parts per billion or micrograms per liter (µg/L).

ppm - Parts per million or milligrams per liter (mg/L).

TT - Treatment Technique; a required process intended to reduce the level of a contaminant in drinking water.

Reduced Monitoring

The Texas Commission on Environmental Quality has Fort Worth on reduced monitoring for some contaminants. This is because these contaminants historically have been detected at very low amounts or not at all.

Radiologicals	Every three years
Lead/Copper	Every three years
Metals	Every six years
Asbestos	Every nine years

Additional Parameters		
This chart lists other items for which the water is tested. These items do not relate to public health but rather to the aesthetic effects. These items are often important to industrial users.		
Item	Measure	2004 Level
Bicarbonate	ppm	134 to 159
Calcium	ppm	99 to 161
Chloride	ppm	17 to 40
Conductivity	µmhos/m	385 to 498
pH	units	8.0 to 8.6
Magnesium	ppm	3 to 10
Sodium	ppm	14 to 30
Sulfate	ppm	34 to 47
Total Alkalinity as $CaCO_3$	ppm	82 to 138
Total Dissolved Solids	ppm	220 to 275
Total Hardness as $CaCO_3$	ppm	121 to 173
Total Hardness in Grains	grains/gallon	7 to 10

Cryptosporidium, Giardia & Virus Results Provided

Fort Worth's 2004 testing of lake water detected low levels of *Cryptosporidium, Giardia lamblia* and viruses.

These are microscopic organisms common in surface water. Required levels of inactivation are achieved through disinfection and filtration.

The source is human and animal fecal waste. When ingested, *Cryptosporidium* and *Giardia lamblia* can cause diarrhea, cramps and fever.

No specific drug therapy has proven effective, but people with healthy immune systems usually recover within two weeks. Individuals with weak immune systems, however, may be unable to clear the parasite and suffer chronic and debilitating illness.

Efficient Water Use Is Essential

All living things require water to survive. It is a precious natural resource that we all bear responsibility for protecting and using responsibly.

According to the State Water Plan, water needs in Texas are expected to exceed available resources in less than 50 years.

The fact is the cheapest water we will ever have is the water we have today. Efficient use of current resources can help meet some of our future demands for water.

Tarrant Regional Water District is actively pursuing new water supplies to meet our growing needs. Our current supplies are projected to be sufficient through about 2030.

In April 2005, the Fort Worth City Council adopted a new water conservation plan and a new drought contingency/ emergency water management plan.

The water conservation plan addresses things that can be done to achieve efficient water use year round.

The drought contingency/ emergency water management plan outlines strategies to achieve temporary use reductions at times of water supply emergencies or shortages. The plan could be initiated when a major system component fails, production or distribution limitations exist, contamination occurs or there is a drought.

Copies of the adopted plans can be viewed at any Fort Worth Public Library or on the internet at www.fortworthgov.org/water.

Speakers are available to discuss the plans or ways to use water efficiently with civic clubs and neighborhood groups. School programs are also available. Call 817-392-4477 to arrange a speaker.

Save Water Outdoors

- Water only when the grass needs watering. Walk across your grass early in the morning. If your footprints remain, it needs water.
- Water deeply. This promotes deep roots and healthy grass. An inch of water will penetrate the soil four to six inches.
- For clay soils, turn off the sprinkler when runoff occurs. Wait 20 minutes for water to absorb into the ground. Dig a test hole to see how deeply it absorbed. Repeat steps until the water penetrates six inches.
- Water early in the morning. Watering in the middle of the day loses a lot of water to evaporation.
- Mulch all plant beds two to three times a year with organic matter. This slows evaporation.
- Never water on windy days.
- Water newly planted flowers and shrubs separately and more often so their root systems can get established.
- Choose plants native or adapted to this region and soil conditions. For information, visit www.txsmartscape.com.

Did you know?

- In the summer, lawn and garden watering can increase water demands by more than 50 percent.
- About 75 percent of home indoor water use occurs in the bathroom, and toilets are the single largest water users.
- You can refill an 8-ounce glass of water about 15,000 times for the same cost as a six-pack of soda.
- 300 million gallons of water are needed to produce a single day's supply of U.S. newsprint.
- Water is the only natural substance that can exists in all three states — solid, liquid and gas.
- One gallon of water weighs about 8½ pounds.

Need a Speaker for your neighborhood or civic club?
817-FW-24-HRS (817-392-4477)

Water Quality Water Conservation Pesticides Biosolids Youth Programs & More